

In the United States Patent and Trademark Office

Appn. Number: _____

Appn. Filed: _____

Applicant(s): John A. Twardch

Appn. Title: Ellipsometric Investigation of Thin Films

Examiner/GAU: _____ 1324

Mailed: U.S. Application

At: _____

Information Disclosure Statement

Commissioner of Patents and Trademarks
Washington, District of Columbia 20231

Sir:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references cited thereon.

Following are comments on these references pursuant to Rule 98:

PATENTS

Patents which describe ellipsometric monitoring of thin films are:

Patent No. 6,573,999 to Yang;
Patent No. 6,349,594 to Yabe;
Patent No. 5,486,701 to Norton et al.;
Patent No. 5,798,837 to Aspnes et al.;
Patent No. 4,105,338 to Kuroha;
Patent No. 5,181,080 to Fanton et al.;
Patent No. 4,826,321 to Coates et al.;
Patent No. 5,910,842 to Piwonka-Corle et al.;
Patent No. 5,517,312 to Finarov;

Patent No. 6,278,519 to Rosenscwaig et al.;
Patent No. 4,899,055 to Adams;
Patent No. 5,798,837 to Aspnes et al.;
Patent No. 5,793,480 to Lacey et al.;
Patent No. 5,900,939 to Aspnes et al.;
Patent No. 5,595,916 to Fujimura et al.;
Patent No. 6,605,482 to Celii et al.; and

Patent Application No. US 2002/0176081 A1.

Patents which discuss monitoring witness samples are:

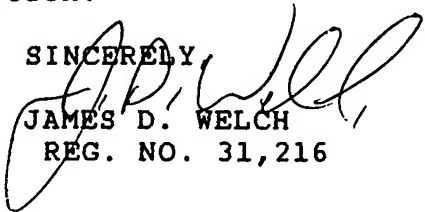
Patent No. 6,278,809 to Johnson et al.;

Patent No. 5,871,805 to Lemelson;

SCIENTIFIC PAPER

A relevant Scientific Paper is titled "Data Analysis for Spectroscopic Ellipsometry", Thin Solid Films, 234 (1993) is disclosed as it defines parameters $N = \cos(2\theta)$; $C = \sin(2\theta)\cos(\phi)$ and $S = \sin(2\theta)\sin(\phi)$ which are applied in the preferred embodiment of the disclosed invention.

SINCERELY,


JAMES D. WELCH

REG. NO. 31,216

Form PTO-1449
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U.S. DEPARTMENT OF COMMERCE
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GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA	6573999	6/2003	Yang.	356	632	
AB	6349594	2/2002	Yabe	73	150	
AC	5484701	1/1996	Norton et al.	250	372	
AD	5798837	8/1998	Arpner et al	356	369	
AE	4105338	8/1978	Kuroha	356	118	
AF	5181080	1/1993	Fanton et al	356	369	
AG	4826321	5/1989	Coates et al.	356	351	
AH	5910842	6/1999	Piwonka-Gude et al	356	369	
AI	5517312	5/1996	Finarov	356	386	
AJ	6278519	8/2001	Rosenchans et al	356	369	
AK	4899055	2/1990	Adams	250	372	

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AL							
AM							

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR	OpSal et al	Pub No US 2002/0176081 A1,
		Nov. 28, 2002, Serial No. 10/138,984
AS		

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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APPLICANT

John A. Tward

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA	5798837	8/1998	Aspner et al.	358	369	
AB	5793480	8/1998	Lacey et al.	358	77	
AC	5900939	5/1999	Aspner et al.	358	369	
AD	5595916	1/1997	Fujimura et al.	437	8	
AE	6605482	8/2003	Celii et al.	438	16	
AF	6278809	8/2001	Johnson et al.	385	17	
AG	5871805	2/1999	Lemelson	427	8	
AH						
AI						
AJ						
AK						

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AL							
AM							

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR		Data Analysis for Spectroscopic Elliprometry, Thin Solid Films 234 (1993) by Johnson Jr.
AS		

EXAMINER

DATE CONSIDERED

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